IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A flame detection apparatus comprising means for generating an image of the infra-red radiation emitted within a viewing region, means for measuring the spectral ratio of the intensity of radiation having a first wavelength emitted within the viewing region to the intensity of radiation having a second wavelength emitted within the region, and processing means which analyzes ~~analyses~~ the outputs of said image generating and spectral ratio measuring means for responses indicative of the presence of a flame.

2. (Currently Amended) A flame detection apparatus according to claim 1 [[I]], wherein said means for generating an image of the infra-red radiation emitted within the viewing area is a focused array based sensor responsive to radiation having a predefined wavelength.

3. (Currently Amended) A flame detection apparatus according to claim 2, wherein the array based sensor is sensitive to radiation having a wavelength within the range of substantially 2 μm [[um]] to 15 μm [[um]].

4. (Currently Amended) A flame detection apparatus according to claim 3, wherein the array based sensor is sensitive to radiation having a wavelength of substantially 4.3 [[um]] μm.

5. (Original) A flame detection apparatus according to any of claim 2, wherein the means for measuring the spectral ratio includes an unfocussed volumetric sensor which measures infrared radiation emitted within the viewing region having said second wavelength.

6. (Currently Amended) A flame detection apparatus according to claim 5, wherein the second wavelength is substantially 5.5 μm [[um]].

7. (Original) A flame detection apparatus according to claim 5, wherein the

means for measuring the spectral ratio further includes the array based sensor which is sensitive to radiation having said first wavelength so as to enable the total amount of radiation having said first wavelength which is emitted within the viewing region to be calculated and compared with the output of said unfocussed volumetric sensor in order to calculate said spectral ratio.

8. (Original) A flame detection apparatus according to claim 5, wherein the means for measuring the spectral ratio further includes a second unfocussed volumetric sensor which measures infra-red radiation emitted within the viewing region having said first wavelength.

9. (Currently Amended) A flame detector apparatus according to claim 7, wherein the first wavelength in substantially 4.3 μm [[um]].

10. (Original) A flame detector apparatus according to claim 2, further including a second focused array based sensor responsive to radiation having a predefined wavelength which is different from that of said first focused array based sensor.

11. (Original) A flame detector apparatus according to claim 1, further including an unfocussed volumetric sensor which measures the intensity of short wavelength or visible radiation.

12. (Original) A flame detector according to claim 1, further including at least one sensor for monitoring at least one of the actual temperature, the rate of rise of temperature and the vibration within the monitored area.

13. (Currently Amended) A method of detecting a flame comprising the steps of measuring the intensity of radiation having a first wavelength within a monitored region, measuring the intensity of radiation having a second wavelength within the monitored region, calculating the spectral ratio of the intensity of the radiation having the first wavelength to the intensity of the radiation having the second wavelength ~~wave~~ and comparing it to a predefined threshold value indicative of the presence of a flame, generating an image of the infra-red radiation within the monitored region, analyzing the image for features indicative of the presence of a flame within the

monitored region, and activating an alarm if the results of [[the]] a spectral ratio analysis and the image analysis fit a predefined profile indicative of the presence of a flame.

14. (Currently Amended) A method of detecting a flame according to claim 13, wherein said first wavelength is 4.3 μm [[um]].

15. (Currently Amended) A method of detecting a flame according to claim 13, wherein said second wavelength is 5.5 μm [[um]].

16. (Currently Amended) A method of detecting a flame according to claim 13, wherein said analysis of the image includes discerning the number of separate dynamic radiation sources present in the viewing area and analyzing at least one of the shape, movement and intensity of each source for predefined qualities similar to a flame [[flame-like qualities]].

17. (Currently Amended) A method of detecting a flame according to claim 13, further including the steps of measuring at least one of the actual temperature, the rate of rise of temperature and the vibration within the monitored region and analyzing [[the]] characteristics thereof for behavior indicative of the presence of a flame.

18. (Currently Amended) A method of detecting a flame according to claim 13, further including the step of measuring the intensity of at least one of the short wavelength radiation and visible radiation within the monitored area and analyzing the profile thereof for characteristics indicative of a non-flame radiation source.